

IT IS CLAIMED:

1. A system for starting operation of an intelligent device comprising:
an application and file storage device configured to read and write data files, one
or more of the data files including the basic input/output system (BIOS) interface;
5 random access memory (RAM);
a loading logic circuit that copies a portion of the BIOS from the storage device
into the RAM.
2. The system of claim 1 wherein the loading logic circuit is configured to copy the
10 portion of the BIOS from the application and file storage device into the RAM without using a
microprocessor.
3. The system of claim 1 wherein the application and file storage device is a flash
memory device.
- 15 4. The system of claim 1 wherein the application and file storage device is a
magnetic or optical disk drive.
5. The system of claim 1 wherein the loading logic circuit is contained in a field
20 programmable gate array(FPGA).
6. The system of claim 1 wherein the loading logic circuit is contained in a
programmable logic device.
- 25 7. The system of claim 1 wherein the circuit comprises board level components.

8. The system of claim 1 wherein the loading logic circuitry stores the BIOS at any location of the storage device.

9. The system of claim 1 wherein the loading logic circuitry copies the BIOS to any location in the RAM.

10. The system of claim 1 wherein the loading logic circuitry comprises a write protect mechanism that prevents the location of the storage device having the BIOS from being overwritten.

11. The system of claim 10 wherein the write protect mechanism generates a first and second write strobe signal for each write strobe signal of a microprocessor.

12. The system of claim 11 wherein the first write strobe signal is separated from the second write strobe SIGNAL by a period of time, and wherein the first write strobe signal records the location of the BIOS in the storage device and the command code to the storage device, and the second write strobe signal enables writing of the storage device.

13. The system of claim 12 wherein when the microprocessor attempts to write to the location of the BIOS in the storage device, the second write strobe signal is not generated whereby the BIOS is not overwritten.

14. A method of starting a smart device comprising:
resetting operation of a microprocessor; and thereafter
suspending operation of the microprocessor; and thereafter

copying a portion of a BIOS from an application and file storage device into

RAM; and thereafter

starting operation of the microprocessor.

5 15. The method of claim 14 wherein the storage device includes multiple BIOSs and
wherein a user can select which BIOS to copy from the application and file storage device into
RAM.

10 16. The method of claim 14 further comprising the step of reading the portion of the
BIOS from the RAM with the central processing unit after the step of starting operation of the
microprocessor.

15 17. The method of claim 14 wherein the step of copying the BIOS from a memory
storage device into RAM is controlled by a state machine.

18. The method of claim 17 wherein the state machine is implemented in an ASIC.

19. The method of claim 17 wherein the state machine is implemented in an FPGA.

20 20. The method of claim 14 wherein the application and file storage device is a flash
memory device.

21. The method of claim 14 wherein the application and file storage device is a
magnetic or optical drive.

22. A method of providing an interface between an operating system and hardware devices comprising:

storing the interface in an application and file storage device; and thereafter

copying the interface from the application and application and file storage device

5 into RAM without using a microprocessor.

23. The method of claim 22 wherein the interface is a basic input output system (BIOS) of routines.

10 24. The method of claim 22 wherein the application and file storage device is a NAND flash memory device.

15 25. The method of claim 22 wherein the application and file storage device is a magnetic or optical drive.

26. The method of claim 22 wherein the step of copying the interface is controlled by a logic loading circuit.

20 27. The method of claim 26 wherein the circuit is implemented on board level components.

28. The method of claim 22 further comprising copying additional interface device commands from the application and file storage device into RAM using the microprocessor.

25 29. The method of claim 22 wherein the step of copying the interface comprises: enabling the application and file storage device and the RAM; and thereafter

enabling an address counter to output a value; and thereafter

correlating the value with a RAM address; and thereafter

sending data from the application and file storage device over a data bus to the

RAM address; and thereafter

incrementing the address counter.

30. The method of claim 22 wherein the step of copying the interface further comprises the usage of error correction code.

31. A system for booting a microprocessor controlled device comprising:
an application and file storage device having a plurality of files ;
random access memory;
a microprocessor;
human interface devices; and
an interface for communicating between the microprocessor, the application and file storage device and the human interface devices, the interface residing in a file of the file storage device; and means for copying a portion of the interface into the random access memory without using the microprocessor.

32. The system of claim 31 wherein the application and file storage device comprises a non-volatile solid state memory device.

33. The system of claim 31 wherein the file storage device comprises an optical or magnetic disk drive.

34. The system of claim 31 further comprising a means for protecting the file on the file storage device from being overwritten.

35. The system of claim 1 wherein the loading logic circuit further comprises a means for protecting the basic input/output system (BIOS) interface on the application and file storage

5 device from being overwritten.

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